IPCC confirms that the risks to the UK from global warming remain substantial

27 September 2013 - The Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report (AR5) has revealed that on the ground, in the air and in the oceans, global warming is without doubt.

Many of the changes we have seen since the 1950's are unprecedented over decades to millennia.

Temperatures have risen by about 0.8 °C since pre-industrial times; Arctic sea ice extent has declined by 4% per decade since records began in 1979, and summer extent has declined at an even faster rate; sea levels have been rising by about 3 mm a year since the early 1990s.

Each of the last three decades has been successively warmer at the Earth's surface than any preceding decade since 1850. In the Northern Hemisphere, 1983-2012 was "likely" the warmest 30-year period of the last 1400 years.

Scientists are 95% certain that humans have been the "dominant cause" of the rise in temperatures since the 1950s.

Professor Stephen Belcher, Head of Met Office Hadley Centre, said: "Well established physics tell us that if we increase concentrations of greenhouse gases in the atmosphere, then global temperatures will rise. The question is about how much warming will occur, where it will warm fastest and what the implications are. That is what this latest report seeks to answer."

For the UK, the report projects a decline in the Atlantic Meridional Circulation (AMOC) - the conveyor of warm water, the Gulf Stream, which keeps our climate mild. However, although any weakening in the AMOC may reduce warming here, relative to elsewhere, it would not be enough to counter the inexorable rise in temperature as a result of increasing greenhouses gases. The AR5 report shows that even under a scenario for the future with extensive measures to mitigate global CO2 emissions, the UK is still projected to warm over the course of the century.

Limiting climate change would require substantial and sustained reductions in emissions of carbon dioxide (CO2) and other greenhouse gases. In order to limit warming to "likely" stay below 2 °C we should keep carbon emissions to below 1 trillion tonnes. About half of this has already been emitted since pre-industrial times.

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